

three-dimensional copolymers of methacrylonitrile and of at least one crosslinkable comonomer.

2. (Twice Amended) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer which is soluble in solvents with low boiling points.

4. (Twice Amended) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic or methacrylic comonomer.

5. (Amended) Solid polymer electrolyte according to Claim 4, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic comonomer corresponding to the formula $\text{CHX}=\text{CZ}-\text{CO-V-Y}$, in which:

- X represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$;
- Z represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$, or $(\text{CH}_2)_m\text{CN}$, with $0 \leq m \leq 4$;
- V represents O, NH or NR, R represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$;
- Y represents a $\text{C}_n\text{H}_{2n+1}$ radical, with $0 \leq n \leq 8$, a radical carrying an oxirane group $\text{C}_n\text{H}_{2n}-(\text{CH}-\text{CH}_2)-\text{O}$, with $1 \leq n \leq 4$, or a radical $[(\text{CH}_2)_m-\text{O}]_p\text{R}'$, in which $m = 2, 3$ or 4 , $1 \leq p \leq 50$ and R' represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$.

14. (Twice Amended) Solid polymer electrolyte according to Claim 2, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a monomer carrying an ionic functional group selected from the group consisting of carboxylate, phosphate, phosphonate, sulfonate and perfluorosulfonate.

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16. (Amended) Solid polymer electrolyte according to Claim 4, wherein the comonomer is glycidyl acrylate or glycidyl methacrylate. ✓

29. (Amended) Process for the bulk preparation of a methacrylonitrile polymer by the radical route, comprising the following stages:

- a thermal-decomposition free-radical initiator is dissolved in methacrylonitrile or a mixture of methacrylonitrile with at least one comonomer,
- the mixture is degassed in order to remove the oxygen and is introduced into a hermetically closed chamber,
- the mixture is brought to a temperature of 60 to 90°C and is maintained at this temperature for 24 to 72 hours.

34. (Amended) Solid polymer electrolyte according to Claim 2, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic or methacrylic comonomer.

Please add the following new claims 37-39:

--37. (New) Solid polymer electrolyte according to Claim 1, comprising at least one methacrylonitrile polymer chosen from linear homopolymers of high mass which are reinforced or from three-dimensional crosslinked homopolymers which are reinforced.

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38. (New) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer providing internal plasticization of the polymer by decreasing its glass transition temperature.

39. (New) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer which has an ionic functional group in order to obtain a unipolar electrolyte.